



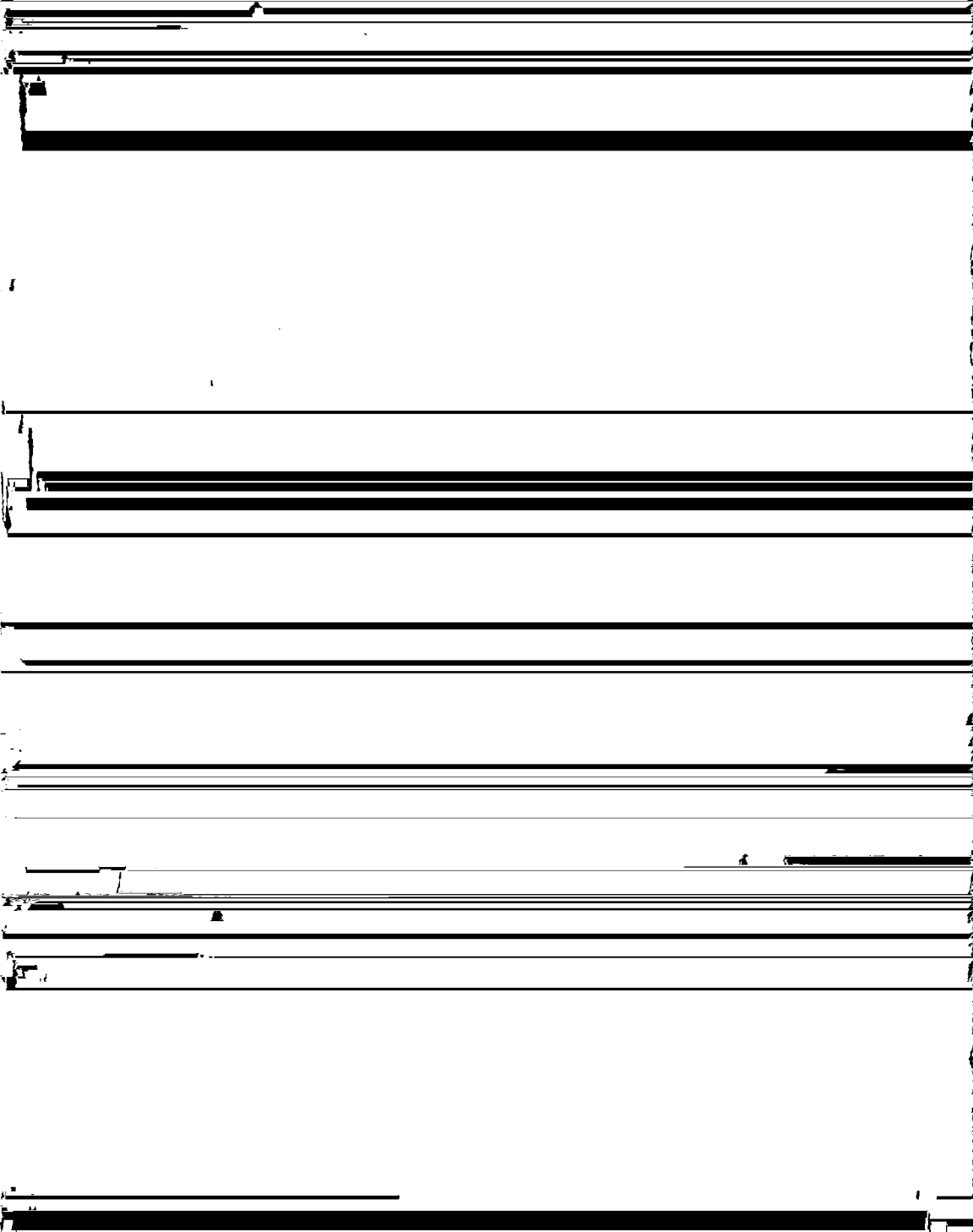


1.  $\text{Ga}_{0.4}\text{In}_{0.6}\text{As}_{0.4}\text{Sb}_{0.6}$  (0.15 nm)

2.  $\text{Ga}_{0.4}\text{In}_{0.6}\text{As}_{0.4}\text{Sb}_{0.6}$  (0.15 nm)

3.  $\text{Ga}_{0.4}\text{In}_{0.6}\text{As}_{0.4}\text{Sb}_{0.6}$  (0.15 nm)

4.  $\text{Ga}_{0.4}\text{In}_{0.6}\text{As}_{0.4}\text{Sb}_{0.6}$  (0.15 nm)





band gap when forming a superlattice, the superlattice-induced folding must be such that the lowest energy strain-split X band folds to  $\bar{\Gamma}$ .

The strain will also split the three-fold degeneracy (in the absence of spin-orbit splitting) of the valence band maximum into a doubly degenerate  $p^{100}$ ,  $p^{010}$  pair and a single  $p^{001}$  state. Again the order of these states depends on the sign of the strain:















$$\Gamma_c, \Sigma_{c2} \quad \Gamma_c$$





reduces the direct band gap and slightly modifies the valence band offsets. The effect of spin-orbit on the confinement of the superlattice states is thus expected to be small.

## 5. CONCLUSIONS

We have studied the electronic structure of GaAs/AlGaAs superlattices with a spin-orbit splitting of the conduction band.

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